February 24, 2003

TO: Internal File

THRU: Greg Galecki, Reclamation Hydrologist and Team Lead

FROM: Jerriann Ernstsen, Biologist
Susan M. White, Mining Program Coordinator/Biologist

RE: Refuse Pile, Canyon Fuel Company, Dugout Canyon Mine, C/007/039-SR02D-1, Internal File

SUMMARY:

A proposal for a waste rock storage site was submitted to the Division in April of 2002. Requested supplemental information from the completeness review was added August 30, 2002. This memo reviews the biology and land use information received as of August 30, 2002. This memo is a review of the biology section of the submittal dated January 7, 2003, with additional information submitted February 20, 2003, that addresses the deficiencies compiled in the TA dated October 24, 2004.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

A cultural resource survey was preformed by Senco-Phenix of the area to be disturbed on June 13, 1998 (attachment 4-1). The area was walk with no more than 50 feet between transects.

One historic site (42CB-1243) and two isolated prehistoric findings were discovered. None of these sites or findings is eligible for nomination to the historic register.

There are no cemeteries, public parks, or units of the National System of Trails or the Wild and Scenic Rivers System located within or adjacent to the refuse pile permit area.

Findings:

Information provided meets the minimum Historic and Archeological Resource requirements of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The information provided in the Refuse Pile Amendment refers to previous disturbance caused by the extraction of gravel. This gravel was used to build the adjacent county road. Discussion of future disturbances caused by the proposed mining operations is generally clear and not easily confused with disturbances caused by the previous gravel extraction operations.

In the 2003 Amendment, the vegetation study (Attachment 3-1), maps (Figure 3-1 and 3-2), and photos indicate the area was in fair condition in 1998. Gravel extraction operations,

however, negatively affected a portion of the area. Disturbances caused by gravel operations left the proposed refuse site with minimal cover. Plants currently present are introduced, weedy species, such as tumbleweed (see FV_0130; Jerriann Ernstsen)

The amendment refers to RA Figures 3-1 and 3-2 for documented vegetation communities (AMD 2003; pg 3-6). Figure 3-1 represents the surrounding vegetation communities. Data was compiled from 1988 photographs and soil surveys. Figure 3-2 shows the area disturbed from gravel extraction operations in 1998. The southeastern margin of the permit boundary area has never been disturbed. Both maps show the area as sage/grass and pinyon/juniper communities.

Two vegetation communities occur in the area and reference site. These communities are black sagebrush/galleta grass and pinyon/juniper (section 321.100). In the 1998 survey of the area, the pinyon-juniper community had 26 percent vegetative cover and 453 woody plants per acre. The grasses in this community included Bouteloua gracilis (blue grama; 3.1 %) and Bromus tectorum (cheatgrass; 2.1%). Other grasses included Elymus salinus (Salina wildrye; 1.9%) and Hilaria jamesii (galleta grass; 1.4%). The dominant forbs were Phlox hoodii (0.8%) and an unknown forb (2.0%). (RA Attachment 3-1; pgs 5 of PJ surveys).

In the 1998 survey of the area, the black sagebrush/grass community had assorted grass and shrub species that provided 18% and 13%, respectively of the total 37% coverage. Over half of the cover provided by grass was contributed by Bromus tectorum (cheatgrass; 4.5%) and Hilaria jamesii (6.6%). Almost 75% of the cover provided by shrubs was contributed by Artemisia arbuscula (black sagebrush; 7.1%) and Atriplex confertifolia (shadscale; 2.6%). The dominant forbs for the black sagebrush/grass community were Eriogonum spp. (Buckwheat) and an unknown forb. Other plant types in this community included trees (3.4%) and forbs (1.1%). Total woody plants per acre were 2788. (RA Attachment 3-1; pg 5 of BSB survey).

George S. Cook (1998) of NRCS states that the measured and potential productivity of the reference area is 460 and 500 pounds per acre, respectively. The measured and potential production for the refuse pile is 500 and 550 pound per acre, respectively. These values were obtained using an air-dry method instead of the oven-dried method.

Findings:

Information provided in the application meets the minimum “Vegetation Information” requirements of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

The mine operator plans to conduct raptor surveys at least one half mile around the permit area every spring beginning 2003 until mine activities are completed. Two raptor nests have been identified within one mile of the proposed refuse site. Nest number 1 is a ferruginous hawk nest, which was identified as dilapidated in 1998 and has not been surveyed since (DWR database). Nest number 2 is also a ferruginous hawk nest not surveyed since 1998 (DWR database). The application states that surveys were conducted in the general area for 1995, 1997, 1998, 1999, and 2002. Only the 2002 survey pertains to the permit area (RA Attachment 3-2; 2002 map).

The application states that the area is within critical deer winter range and elk winter range. DWR maps indicate that it is adjacent to yearlong pronghorn habitat.

The application states that there are no threatened or endangered (T&E) plant and wildlife species within the area to be disturbed. This is based on a letter from DWR (Bill Bates, 1996) in Appendix 3-2 and a vegetation survey report (Patricia Johnston, 1998) in Appendix 3-1. The purpose of the vegetation survey report was to establish plant community data and not survey for T&E plant species. The letter from DWR in Appendix 3-2 concerns a raptor survey in 1996. A letter from U.S. Fish and Wildlife Service (USFWS; Robert Williams), dated April 12, 1996 was found in Appendix 3-2 advising no T&E species. USFWS generally does not provide concurrence six years from the date of the initial application.

Appendix 3-3 of the amendment lists federally listed T&E species that may occur in Carbon county. The mine operator provides a notation of whether potential habitat is available within the permit area for these species. Additionally, the amendment describes that the permit area is currently a disturbed site caused by gravel extraction operations and would not support T&E species.

The amendment does not discuss the survey results of the reference site conducted by George S. Cook in 1998. This survey includes observations of Sclerocactus wrightiae (Wright fishhook cactus), which is listed as endangered. This species was not observed in the 1998 survey of the refuse site or in the 2002 survey of the reference area. Furthermore, during a field visit (FV_0130), Jerriann Ernstsen of the Division took a picture of a hooked cactus, but Ben Franklin of DNR (Wildlife Resources) verified that the picture is not the endangered Wright fishhook cactus.

The Utah Natural Heritage Program was asked for any information in their database concerning T&E and sensitive species in proposed refuse area. They reported the following on October 21, 2002:

A sighting of an individual lark bunting in 1952--the species is not listed on the state or federal sensitive species lists, but the Utah Natural Heritage Program is "tracking" the species.

There are also 3 recent records for ferruginous hawk nests nearby (within ½ -2.25 mi away). Also, a small portion of the area (NW corner) is identified as a critical value deer winter use area.

Findings:

Information provided in the application meets the minimum "Fish and Wildlife Resource Information" requirements of the regulations.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

The area to be disturbed has been previously used as a gravel pit, rangeland and wildlife habitat. Adjacent BLM land uses are cattle from November 16 to June 15 for 835 AUM's. Currently the Dugout Canyon Road runs adjacent to the site (section 411.130).

Findings:

The information provided meets the minimum "Land Use Resource Information" requirements of this section

OPERATION PLAN

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Protection and Enhancement Plan

A protection and enhancement measures have been provided.

Endangered and Threatened Species

Resource information has been provided.

Findings:

Information provided in the application meets the minimum "Fish and Wildlife Information" requirements of the regulations.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The plan lists an interim seed mixture and specifies that it will be used on the topsoil stockpile and any other areas requiring stabilization prior to final reclamation. The plan states that all areas not actively being utilized will be planted with an interim seed mixture until establishment and final grading.

Findings:

Information provided meets the minimum "Vegetation" requirements of the Operations regulations.

RECLAMATION PLAN

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

The postmining land use will be wildlife habitat and livestock grazing. This will be achieved through reclamation activities. The surface owner is the same as the Permittee. The suitability of the land to support the postmining land use cannot be assessed until other items baseline and reclamation deficiencies are addressed.

Findings:

A determination of meeting the minimum regulatory requirements of the Postmining Land Uses section will be made after other noted deficiencies are addressed.

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

The operator states that because the mine permit-area is currently an unimproved disturbed area, that interim and final reclamation will enhance the area. These improvements will add foraging and nesting habitat for wildlife. If additional foraging habitat is needed to guide wildlife away from mine operations the operator will consult with DWR for best-use methods.

In the Protective measures section of the MRP, the operator addresses raptor protection and in-house wildlife training. The raptor protection measures in the MRP have been replaced with the measures stated in the Amendment. Current measures include yearly surveys until the completion of mine activities and consultations with DOGM if raptor nest are located within the permit area. The operator does not include forage or habitat improvements for raptors. In-house wildlife training steps include informing mine-related staff about wildlife protection, work area boundaries, and equipment fluid handling.

Findings:

Information provided meets the minimum "Enhancement" requirements of the regulations.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation: General Requirements

Section 341.200 lists the final seed mixture. This seed mixture includes species that are represented in the existing communities. The list includes black sagebrush, Wyoming sage, shadscale, rubber rabbit brush, scarlet globe mallow, Palmer penstemon, sheep fescue, blue grama, bottlebrush squirreltail, indian rice grass, and galleta grass. Replanting community-dominant species are important although the Division agrees that the pinyon and juniper can be allowed to naturally invade.

The seed mixes include warm and cool season grasses. For final reclamation, the warm season grasses will be hydroseeded with mulch and tackifier sometime in June or July. The cool season grasses will be broadcast without mulch or tackifier sometime in late fall.

The area proposed for the refuse pile is dry and difficult to reclaim. The Soldier Creek mine has a history of cheatgrass invasion on disturbed areas. The operational and final contours of the refuse pile should be designed to maximize soil moisture and minimize evaporation and solar heat. The loss of water may be reduced because gravel extraction left a depression in the earth about 4 feet deep in the southwest portion of the site where refuse will be placed. As a consequence of filling in the hole, the surface area of the refuse pile with south and west exposures will be reduced. Instead of a calculated pile with south and west sides of ten feet, some portion of the sides will probably be closer to 6'. (Personal communications during a field visit with Vicky Miller, see FV_0130.) The reduced south and west solar exposure will help reduce water loss.

Revegetation: Timing

The vegetation survey found warm season grasses that will need to be seeded separately and prior to the cool season species. The Operator has committed to seeding the warm season species in July or August (once monsoon season has begun for that year) and the cool season species in the fall.

Revegetation: Mulching and Other Soil Stabilizing Practices

The final reclamation plan includes extreme roughening, mulching with certified noxious weed free hay (1 ton per acre), then planting with seeds and transplants.

Revegetation: Standards For Success

The application addresses standards for success using the UDOGM guidelines.

Findings:

Information provided in the application meets the minimum "Revegetation" requirements of the regulations.

RECOMMENDATIONS:

The application can be approved in its current form.